

US Serial No. 10/760,202

Page 3 of 11

**IN THE CLAIMS:**

Please amend claims 1, 14, and 24 as follows:

1. (CURRENTLY AMENDED) A method of progressive hydro-forming of a tubular member in a multi-stage die, said method comprising the steps of:

providing a tubular member;

positioning the tubular member between open die halves mating with one another to define a first tubular cavity portion in a first stage of the multi-stage die;

progressively closing the die halves to progressively deform the tubular member within the first tubular cavity portion;

applying hydraulic pressure to expand and conform the tubular member to the first tubular cavity portion in the first stage;

separating the die halves;

removing the expanded tubular member from the first tubular cavity portion;

positioning the expanded tubular member between open die halves mating with one another to define a second tubular cavity portion in a second stage of the multi-stage die;

progressively closing the die halves to progressively deform the expanded tubular member within the second tubular cavity portion;

applying hydraulic pressure to expand and conform the expanded tubular member to the second tubular cavity portion in the second stage;

separating the die halves; and

removing the final expanded tubular member from the second tubular cavity portion.

2. (ORIGINAL) A method as set forth in claim 1 including the step of bending the tubular member to a predetermined position prior to said step of positioning in the first stage.

3. (ORIGINAL) A method as set forth in claim 1 wherein said step of providing a tubular member comprises providing a tubular member having a generally circular cross-sectional shape.

US Serial No. 10/760,202

Page 4 of 11

4. (ORIGINAL) A method as set forth in claim 1 wherein said step of applying comprises expanding at least one portion of the tubular member by fluid pressure.

5. (ORIGINAL) A method as set forth in claim 1 wherein said step of applying includes the step of expanding at least one portion of the tubular member to have a size greater than a diameter of a remainder of the tubular member.

6. (ORIGINAL) A method as set forth in claim 1 wherein said step of applying includes the step of expanding at least one portion of the tubular member to have a cross-sectional shape different from a cross-sectional shape of a remainder of the tubular member.

7. (ORIGINAL) A method as set forth in claim 6 wherein the cross-sectional shape of the at least one portion is one of circular or oval.

8. (ORIGINAL) A method as set forth in claim 1 wherein said step of applying comprises expanding at least one portion of the expanded tubular member by fluid pressure.

9. (ORIGINAL) A method as set forth in claim 1 wherein said step of applying includes the step of expanding at least one portion of the expanded tubular member to have a size greater than a diameter of a remainder of the expanded tubular member.

10. (ORIGINAL) A method as set forth in claim 1 wherein said step of applying includes the step of expanding at least one portion of the expanded tubular member to have a cross-sectional shape different from a cross-sectional shape of a remainder of the expanded tubular member.

11. (ORIGINAL) A method as set forth in claim 10 wherein the cross-sectional shape of the at least one portion is one of circular or oval.

US Serial No. 10/760,202

Page 5 of 11

12. (ORIGINAL) A method as set forth in claim 1 wherein the finished tubular member is integral, unitary, and one-piece.

13. (ORIGINAL) A method as set forth in claim 1 wherein the tubular member is made of a metal material.

14. (CURRENTLY AMENDED) A method of progressive hydro-forming of a tubular member in a two-stage die, said method comprising the steps of:

providing a metal tubular member;

positioning the tubular member between open die halves mating with one another to define a first tubular cavity portion in a first stage of the two-stage die;

applying at least nominal internal hydraulic pressure to the tubular member;

progressively closing the die halves to progressively deform the tubular member within the first tubular cavity portion;

increasing the hydraulic pressure to expand and conform the tubular member to the first tubular cavity portion in the first stage;

separating the die halves;

removing the expanded tubular member from the first tubular cavity portion;

positioning the expanded tubular member between open die halves mating with one another to define a second tubular cavity portion in a second stage of the two-stage die;

progressively closing the die halves to progressively deform the expanded tubular member within the second tubular cavity portion;

increasing the hydraulic pressure to expand and conform the expanded tubular member to the second tubular cavity portion in the second stage;

separating the die halves; and

removing the final expanded tubular member from the second tubular cavity portion.

15. (ORIGINAL) A method as set forth in claim 14 including the step of bending the tubular member to a predetermined position prior to said step of applying.

US Serial No. 10/760,202  
Page 6 of 11

16. (ORIGINAL) A method as set forth in claim 14 wherein said step of providing a tubular member comprises providing a tubular member having a generally circular cross-sectional shape.

17. (ORIGINAL) A method as set forth in claim 14 wherein said step of increasing includes the step of expanding at least one portion of the tubular member to have a size greater than a diameter of a remainder of the tubular member.

18. (ORIGINAL) A method as set forth in claim 14 wherein said step of increasing includes the step of expanding at least one portion of the tubular member to have a cross-sectional shape different from a cross-sectional shape of a remainder of the tubular member.

19. (ORIGINAL) A method as set forth in claim 18 wherein the cross-sectional shape of the at least one portion is one of circular or oval.

20. (ORIGINAL) A method as set forth in claim 14 wherein said step of increasing includes the step of expanding at least one portion of the expanded tubular member to have a size greater than a diameter of a remainder of the expanded tubular member.

21. (ORIGINAL) A method as set forth in claim 14 wherein said step of increasing includes the step of expanding at least one portion of the expanded tubular member to have a cross-sectional shape different from a cross-sectional shape of a remainder of the expanded tubular member.

22. (ORIGINAL) A method as set forth in claim 21 wherein the cross-sectional shape of the at least one portion is one of circular or oval.

23. (ORIGINAL) A method as set forth in claim 14 wherein the finished tubular member is integral, unitary, and one-piece.

US Serial No. 10/760,202

Page 7 of 11

24. (CURRENTLY AMENDED) A method of progressive hydro-forming of a tubular member in a two-stage die, said method comprising the steps of:

providing a metal tubular member;

bending the tubular member to a predetermined position to form a pre-formed tubular member;

positioning the pre-formed tubular member between open die halves mating with one another to define a first tubular cavity portion in a first stage of the two-stage die;

applying at least nominal internal hydraulic pressure to the pre-formed tubular member;

progressively closing the die halves to progressively deform the pre-formed tubular member within the first tubular cavity portion;

increasing the hydraulic pressure to expand and conform the pre-formed tubular member to the first tubular cavity portion in the first stage;

separating the die halves;

removing the expanded tubular member from the first tubular cavity portion;

positioning the expanded tubular member between open die halves mating with one another to define a second tubular cavity portion in a second stage of the two-stage die;

progressively closing the die halves to progressively deform the expanded tubular member within the second tubular cavity portion;

increasing the hydraulic pressure to expand and conform the expanded tubular member to the second tubular cavity portion in the second stage;

separating the die halves; and

removing the final expanded tubular member from the second tubular cavity portion.